IMPACT: International Journal of Research in Business Management (IMPACT: IJRBM)
ISSN(E): 2321-886X; ISSN(P): 2347-4572
Vol. 2, Issue 11, Nov 2014, 13-26

THE DETERMINANTS OF BAD LOANS IN FINANCING SMALL AND MEDIUM-SIZE ENTERPRISES IN THE BANKING SECTOR IN GHANA: A FACTORIAL ANALYSIS APPROACH

J. O. ASANTEY[1] & S. TENGEY[2]

[1]Credit Management Officer, Standard Chartered Bank Ghana

[2]Management Staff, Bank of Ghana, Accra, Ghana

ABSTRACT

This paper seeks to screen for dominant determinants of bad loans in terms of SMEs financing. A quantitative research approach is used in this study in view of the need to employ research methods that make way for generalising findings in a Ghanaian context. A sample of 205 credit risk employees of all commercial banks listed on Ghana Stock Exchange is used. Factor Analysis is used to analyse data. The study reveals 14 dominant determinants of bad loans. These determinants are placed under three factors. The first factor is composed of items relating to SMEs and accounts for the highest variability of 58%. The second factor constitutes determinants relating to banks and accounts for 23.3% of the variability. The third factor contains determinants relating to the economy and accounts for 12.7% of the variability. Experience of SME entrepreneurs in business is the most dominant driver of bad loans. Therefore in making lending decisions, commercial banks cannot risk a consideration of these determinants, especially business experience of SME entrepreneurs.

KEYWORDS: Lending, Bad Loans, Loan Default, Commercial Banks, Small and Medium-Size Enterprises

INTRODUCTION

Commercial banks and their sustainable growth are undoubtedly relevant to industrial development. This is because the banking sector is among the very few sectors that contribute to economic growth in various dimensions. First of all, we see commercial banks contributing to economic growth by paying taxes and creating employment. Moreover, commercial banks constitute the anchor of the growth of other sectors by providing them access to credit facilities in the form of loans. Moreover, much empirical evidence exists on the contribution of commercial banks to financing specific firms and sectors. According to a 2012 report of Standard Chartered Bank (SCB) Ghana, a sector that receives the highest level of financial support from commercial banks is the small and medium-size enterprises (SMEs) sector.

The highest level of contribution to GDP in Ghana comes from the SMEs sector. Historically, Ghana's economic growth has mainly been driven by the SMEs sector, with this sector accounting for up to 90% of employment in Ghana (Ahiabor, 2013). Additionally, a greater part of business infrastructure in Ghana is attributed to the SMEs sector (Quaye, 2011; Agyei, 2012). A 2012 report by Standard Chartered Bank (SCB) Ghana indicates that SMEs globally account for up to 95% of enterprises, 2/3 of the labour force, and contribute between 30% and 60% of GDP. Mensah (2004) also acknowledges the superior contribution of the SMEs sector to economic growth by stating that

Ghana's economy takes its life from the growth of SMEs. In essence, the economic growth condition of Ghana would be abysmally poor if the SMEs sector fails to exist or grow. Yet, the existence and growth of SMEs is believed to be dependent of the financial support of the banking sector.

Empirical studies have pointed to the contribution of commercial banks to the financial performance of SMEs both locally (Ahiabor, 2013; Mensah, 2004; Quaye, 2011; Agyei, 2012; Gyamfi, 2012) and internationally (Wang, 2013; Hassan, 2008). At the local level, lending activities among commercial banks support the growth of SMEs in virtually all regions of Ghana (Ahiabor, 2013; Mensah, 2004; Quaye, 2011; Agyei, 2012; Gyamfi, 2012). This situation is also a common feature of other countries such as Malaysia (Muhammad et al. 2010), Nigeria (Obamuyi, 2007), China (Wang, 2013), Kenya (Mwobobia, 2012) and Iran (Hassan, 2008). As a result, the contribution of commercial banks to the growth of SMEs is not limited to one country or jurisdiction.

A media briefing report of SCB Ghana indicates that commercial banks give utmost priority to lending to SMEs in view of their immense contribution to economic development. The report also indicates that commercial banks tend to focus attention on the financial needs of the SMEs sector because SMEs have the best growth potential and opportunities. A personal observation of their annual reports shows that commercial banks in Ghana increase their lending to SMEs from one year to the other, at least from the year 2008 to 2012. In fact, some banks such as SCB Ghana and Stanbic Bank double their investment in SME lending for the period. This situation attests to the fact that commercial banks are committed to providing financial aid to the SMEs sector as acknowledged in the 2012 media briefing report of SCB Ghana. The personal observation of banks' annual reports also shows that the higher the financial commitment made by commercial banks to the financial needs of SMEs in a particular year, the higher the sum of bad loans experienced by them.

Bad loans result from the inability of debtors to repay their loans and their interests within the specified time (Aballey, 2009), resulting in adverse effects on the financial condition of the creditor (Aballey, 2009; Agu & Okoli, 2013). In the context of this study therefore, a bad loan is the consequence of an SME not being able to repay its loan, resulting in a negative financial effect on a commercial bank. Logically, bad loans take their name from the fact that they are practically in opposition to the financial situation of the bank. By the time they are referred to as "bad loans", there is the fear that the amounts involved and their interest cannot be fully paid by the debtor (Chelagat, 2012; Awunyo-Vitor, 2013). In this regard, a financial loss is encountered instead of a profit, leading to adverse effects on the commercial bank, the defaulting SMEs and other corporations and individuals who would like to borrow from the commercial bank in future.

Bad loans need to be avoided in view of the fact that their effects are multidimensional; thus they do not only hinder profitability among commercial banks, but they also limit lending to the defaulting SMEs, individuals and other corporations. It is in view of this that many researchers have conducted studies to examine the determinants of bad loans towards revealing strategies for avoiding loan defaults. For instance, Agu & Okoli (2013), McCann & McIndoe-Calder (2012), Nawaz, Munir, Siddiqui, Afzal, Asif & Ateeq (2012) and Oni, Oladele & Oyewole (2005) have conducted studies to determine a common framework of determinants of bad loans among various groups of debtors in foreign countries. Similar studies have been conducted by Appiah (2011) and Awunyo-Vitor (2012) in a Ghanaian context. Some of the common determinants identified in these studies are business size, type of products/services sold, business experience of debtors, and many other determinants that relate to commercial banks or lenders and the local economy.

Despite the prevalence of these studies, the general level of academic debate on the subject is weak. This is because few studies exist on this subject on a global scale. Also, available studies have been limited to individual banks or financial firms. For instance, the study of Appiah (2011) was limited to Ghana Commercial Bank and its SMEs. Awunyo-Vitor (2012) also limited his study to farmers in a particular district of Ghana. In essence, results of studies conducted in a Ghanaian context do not reflect nationwide evidence. It is observed that this gap is fraught with other related studies conducted abroad such as those of Agu & Okoli (2013), McCann & McIndoe-Calder (2012), Nawaz et al. (2012) and Oni et al. (2005).

This study is therefore conducted to fill this gap in a Ghanaian context by employing data on major commercial banks and their SMEs (e.g. services SMEs, manufacturing, or agriculture) in Ghana. To appreciably fill this research gap, we ensure that the commercial banks used collectively lend to a majority of SMEs in Ghana. This study is conducted on the following objective.

OBJECTIVE OF THE STUDY

This study seeks to screen for the most dominant determinants of bad loans among the small and medium-size enterprises (SMEs) financed by commercial banks in Ghana. This study provides a framework of drivers of loan default among SMEs in Ghana. It therefore contributes to academic debate on the subject and provides suggestions for maximally savouring SMEs lending among commercial banks in Ghana. It also contributes to the limited body of knowledge on this subject from a Ghanaian point of view.

LITERATURE REVIEW

Lending is one of the major activities from which commercial banks make their profit. This assertion is made in view of a finding in the study by Kuo, Wang, Lai, Yu & Wu (2010). This finding indicates that a greater proportion of the profit of commercial banks comes from lending. Other studies such as those of Kwan (2010) and Nawaz et al. (2012) support this evidence. It is however worth noting that profits are made by commercial banks in lending activities in the face of the most serious credit risks (Kuo et al, 2010). Simply, credit risk constitutes the tendency that a creditor would suffer a default, fails to make the expected interest, or encounter a loss of money to a debtor or group of debtors (Obamuyi, 2007; Nguta & Huka, 2013). When credit risks are not well hedged against by the commercial bank, this results in loan defaults or bad loans. According to Kwan (2010), bad loans need to be avoided or minimised in commercial lending because they counter profitability and future lending potential of lenders. In view of this suggestion, banks and researchers have been concerned about factors that trigger bad loans.

A review of related studies and policy documents of commercial banks indicate that the most dominant determinants of bank loans can be categories into three parts. The first part is influenced by factors relating to commercial banks or lenders. Items of this category are interest rate, repayment period allowed, preliminary credit analysis, repayment monitoring and how long it takes for the bank to disburse loan to the borrower (Oni et al. 2005, Appiah, 2011; Awunyo-Vitor, 2012). The second category of drivers is related to customers or borrowers. It items are type of products or services of the borrower, education, experience in business, business size, availability of other income sources, loan size and number of dependents (Oni et al. 2005, Appiah, 2011; Awunyo-Vitor, 2012, Chelagat, 2012). The third category of determinants is driven by the local economy and Central Bank regulation. Its elements are inflation, exchange rate and regulation (Oni et al. 2005, Appiah, 2011; Awunyo-Vitor, 2012). In the studies of Chelagat (2012) and Appiah (2011),

economy-driven SMEs-related factors make the largest effect on bad loans, followed by bank-level determinants. Economy-related drivers make the least effect on bad loans. Their studies however do not acknowledge the extent of influence made by each determinant. Table 1 shows summarised explanations of the individual determinants.

Table 1: Determinates of Bad Loans: Empirical Perspective

Notation	Determinant	Summary of Empirical Evidence	Common Sources
X_1	Education	Business management and profitability improves with increasing education of borrowers. Bad loans are triggered by lack of education among borrowers.	Oni et al. (2005), Appiah (2011), Awunyo-Vitor (2012) and Chelagat (2012)
X_2	Years of experience	Borrowers are able to savor their experiences in making profits. These profits support them to repay loans. Bad loans are triggered among borrowers with little business experience	
X_3	Business size	Its effect could be negative or positive depending on education and business experience	
X_4	Availability of other income sources	Borrowers with other income sources are able to pay loans better. Bad loans come from borrowers with no other income sources	
X_5	Types of products/services	Its effect could be negative or positive	
X_6	Loan size	Its effect could be negative or positive	
X_7	Number of dependents	Bad loans are triggered among borrowers with many dependents, especially those without other income sources	
X_8	Inflation	Bad loans heighten with increasing inflation	
X_9	Regulation	Its effect could be negative or positive	
X_{10}	Exchange rate	Bad loans heighten with increasing exchange rate	
X_{11}	Political stability	Its effect could be negative or positive	
X_{12}	Credit analysis	A thorough credit analysis hinders the development of bad loans	
X_{13}	Repayment monitoring	An repayment monitoring hinders the development of bad loans	
X_{14}	Nature of bank relationship with SME	Borrowers with good lasting relationship with lender less likely produce bad loans	
X_{15}	Appropriateness of interest rate	Bad loans are empowered with high interest rates	
X_{16}	Length of time within which loan was disbursed	Its effect could be negative or positive	
X_{17}	Length of time allowed before repayment starts	Its effect could be negative or positive	

With respect to Table 1, seventeen (17) variables determine bad loans. Though other policy documents (e.g. Ghana Banking Survey Report, 2013) and qualitative working papers (e.g. Fidrmuc & Hainz, 2009; Demyanyk, Koijen & Van Hemert, 2011; Fidrmuc, Ciaian, Kancs & Pokrivcak, 2013) acknowledge these determinants, the common

sources in Table 1 provide comprehensive empirical evidence on them.

There is however a gap in the academic literature available on the subject from a general point of view. Firstly, the realisation of these determinants was merely based on mean scores and frequencies, which are too weak to unfold the magnitude of influence made by each determinant on bad loans. Invariably, a disclosure of these determinants in current studies is not based on an appropriate statistical tool and procedure such as the use of Factor Analysis to screen for the determinants and provide evidence on which of them largely drives bad loans. The mean scores and frequencies used in identifying the determinants do not take account of some robustness measures. With respect to the subject's current literature, commercial banks and the public may be misled in attaching weights to the determinants. Secondly, the number of studies generally revealing the determinants in Table 1 is small. There is therefore the need for the available empirical evidence on the subject to be strengthened by increasing the number of studies available on it.

From a Ghanaian point of view, these determinants have been revealed in studies (e.g. Appiah; 2011; Awunyo-Vitor 2012, etc.) limited to a single bank and a small group of SMEs. As a result, empirical evidences on the subject cannot be rigorously generalised in Ghana. In an attempt to remedy these problems, this study is conducted using a number of SMEs of commercial banks which makes it feasible to generalise findings to reflect a nationwide situation in Ghana. This study also adopts Factor Analysis, instead of mean scores and frequencies, in screening for the most dominant determinants of bad loans. The Factor Analysis makes it possible to classify the resulting determinants with respect to which ones make the highest influence on bad loans. The following are the null and alternative hypotheses of the study. These hypotheses are tested with respect to the conceptual model of Figure 1.

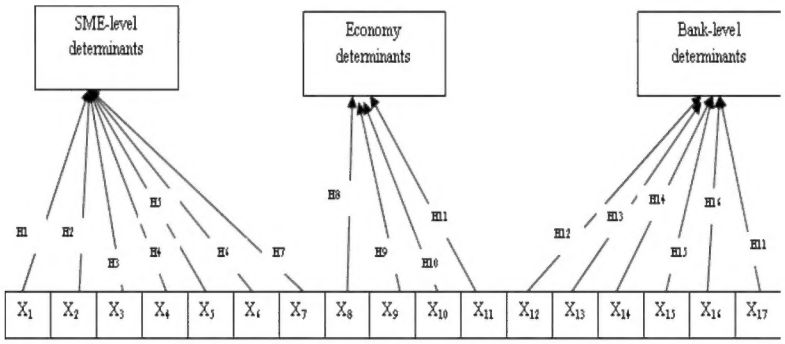

Figure 1: Conceptual Model of the Study

HYPOTHESIS

Null Hypothesis: All identifiable determinants account for bad loans among small and medium-size enterprises in Ghana.

Alternative Hypothesis: Not all identifiable determinants account for bad loans among small and medium-size enterprises in Ghana.

Research Assumption

Any variable retained by the Factor Analysis is a dominant determinant of bad loans in the context of SMEs financing in Ghana. Variables removed are weak determinants.

METHODS AND MATERIALS

A quantitative research technique is employed in this study, where the study's hypothesis is tested using inferential statistical procedures and tools. This research approach is chosen in view of the need to apply a random sample of respondents from which inference can be made to reflect a Ghanaian situation. This chosen research approach is also relevant to achieving the needed validity and reliability of the study's data.

The population of this study was credit risk managers and personnel of all commercial banks in Ghana. The target population of the study was credit risk managers and personnel who had at least 5 years of work experience in banking risk management or related positions in the banking sector. It is worth saying that only commercial banks listed on Ghana Stock Exchange were used in this study, since needed data and other information were not fully accessible on commercial banks not listed on the Ghana Stock Exchange. Banks listed on Ghana Stock Exchange are CAL Bank, Ecobank Ghana, Ghana Commercial Bank, HFC Bank, SG-SSB Bank, Standard Chartered Bank Ghana Limited and UT Bank. The Trust Bank Gambia and Ecobank Group are also listed on Ghana Stock Exchange, but they were not part of the population of this study because they do not operate in Ghana. The five-year work experience criterion was used as a basis of selecting respondents or members of the target population because the researcher sought to maximise the integrity of data by sourcing it from highly experienced risk management professionals. The target population of this study had 443 employees.

A simple random sampling method was used in selecting participants or respondents. This sampling method was deemed appropriate in view of the fact that it technically makes way for generalising findings to reflect a Ghanaian situation. The balloting method of the simple random sampling technique was used to select 205 respondents. This sample size is substantial and appropriate because it was determined according to the standard sampling procedure of Krejcie & Morgan (1970) that makes substantial room for nonresponse. In essence, this sample size addresses the risk of a considerable level of nonresponse in this study.

A self-administered questionnaire was used to collect data. This type of instrument was used to ensure that participants could be given the opportunity to respond to it in the absence of the researcher. The importance of using the self-administered questionnaire is seen in the fact that respondents were not ready to respond at the time the questionnaires were being administered. The determinants of bad loans were measured by asking respondents to indicate (by scoring from 0 to 10) the extent to which some variables serve as determinants of bad loans based on their several years of experience with lending to SMEs. Respondents were also encouraged to refer to appropriate records of the defaulting SMEs before scoring the items. Data on other variables, namely return on investment (ROI) bank asset (BA) and current lending potential (CLP) was obtained from the annual reports of the commercial banks for the period 2008-2012. This data was accessible owing to the public nature of the participating commercial banks.

Data was analysed using XL Stats, a multivariate statistical software. This software was used owing to its robustness in terms of detailed multivariate statistical data analysis. Factor Analysis was used to analyse data. This statistical tool was used with respect to its specialised function of screening a cluster of variables (in this case the determinants of bad loans) based on the magnitude of their correlations. Data analysis was associated with data screening in which anomalous data items such as outliers were removed to reach valid findings. Having considered the research methods applied in this study, we would now delve into data analysis.

RESULTS

In this section, results are presented. The goal of the analysis is to use Factor Analysis to screen for the most dominant determinants of bad loans among SMEs in Ghana. Before results of the Factor Analysis are presented, it is worthwhile to identify the reliability of the questionnaire used. We would look at the reliability of the questionnaire at the levels of the constructs and all drivers of bad loans.

Table 2: Reliability Coefficients

Construct	Cronbach's Alpha
SMEs-level items	.912
Economy-driven items	.865
Banks-level items	.935
All items	.904

From Table 1, bank-level determinants have the largest reliability coefficient relative to SMEs-level determinants and economy-driven determinants. The overall reliability of the questionnaire is .904. Since the general cut-off point of a reliable questionnaire is 0.70, we would consider this study's questionnaire and data as reliable. This forms a basis of making reliable conclusions in this study. Table 3 represents the first table of the Factor Analysis.

Table 3: Correlation Matrix

X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17
1.000	-1.000	-0.311	-0.201	-0.311	-0.453	-0.150	-0.064	-0.188	0.027	-0.071	0.023	-0.062	-0.471	0.256	0.160
1	-1.000	-0.311	-0.201	-0.311	-0.453	-0.150	-0.064	-0.188	0.027	-0.071	0.023	-0.062	-0.471	0.256	0.160
-1.000	1	0.311	0.201	0.311	0.453	0.150	0.064	0.188	-0.027	0.071	-0.023	0.062	0.471	-0.256	-0.160
-0.311	0.311	1	0.849	1.000	0.873	0.602	0.769	0.565	0.639	0.750	0.140	-0.124	0.756	0.000	-0.214
-0.201	0.201	0.849	1	0.849	0.794	0.779	0.871	0.776	0.852	0.883	0.407	0.301	0.825	0.124	-0.156
-0.311	0.311	1.000	0.849	1	0.873	0.602	0.769	0.565	0.639	0.750	0.140	-0.124	0.756	0.000	-0.214
-0.453	0.453	0.873	0.794	0.873	1	0.613	0.672	0.616	0.627	0.608	0.244	0.163	0.742	-0.112	0.047
-0.150	0.150	0.602	0.779	0.602	0.613	1	0.906	0.923	0.949	0.895	0.831	0.479	0.911	0.494	-0.120
-0.064	0.064	0.769	0.871	0.769	0.672	0.906	1	0.908	0.950	0.967	0.688	0.331	0.873	0.474	-0.198
-0.188	0.188	0.565	0.776	0.565	0.616	0.923	0.908	1	0.926	0.863	0.863	0.552	0.854	0.522	0.024
0.027	-0.027	0.639	0.852	0.639	0.627	0.949	0.950	0.926	1	0.944	0.786	0.524	0.845	0.459	-0.123
-0.071	0.071	0.750	0.883	0.750	0.608	0.895	0.967	0.863	0.944	1	0.647	0.351	0.890	0.418	-0.358
0.023	-0.023	0.140	0.407	0.140	0.244	0.831	0.688	0.863	0.786	0.647	1	0.667	0.634	0.688	0.072
-0.062	0.062	-0.124	0.301	-0.124	0.163	0.479	0.331	0.552	0.524	0.351	0.667	1	0.376	0.204	-0.032
-0.471	0.471	0.756	0.825	0.756	0.742	0.911	0.873	0.854	0.845	0.890	0.634	0.376	1	0.291	-0.324
0.256	-0.256	0.000	0.124	0.000	-0.112	0.494	0.474	0.522	0.459	0.418	0.688	0.204	0.291	1	-0.088
0.160	-0.160	-0.214	-0.156	-0.214	0.047	-0.120	-0.198	0.024	-0.123	-0.358	0.072	-0.032	-0.324	-0.088	1

Table 3 shows the correlation matrix of the Factor Analysis. At 5% significance level, correlation values in bold are significant. By observation, most of the correlation coefficients are significant. This means that the Factor Analysis is valid and strong. Also, it is very likely most of the variables are dominant drivers of bad loans, though some are likely to be removed by the Factor Analysis in view of the extremely weak correlation values in the table. Apart from these correlations, two other tests are generally used to verify the strength and validity of the Factor Analysis. Table 4 shows these tests.

Table 4: KMO and Bartlett's Test

KMO	.876
Bartlett's Chi-square	114.268
DF	91
Sig.	.000

Table 4 shows the KMO test and the Bartlett's test of sphericity. These two tests are used to verify the strength and validity of the Factor Analysis. By principle, the KMO test is required to have a value not less than.70 if the Factor Analysis should be valid and strong. Also, the Bartlett's test of sphericity must be significant at 5% significance level or any appropriate level of significance. In the table, both requirements are satisfied at 5% significance level. As a result, the Factor Analysis is strong and valid. Table 5 shows the communalities of the Factor Analysis.

Table 5: Communalities

Variable	Extraction
X1	0.727
X2	0.927
X3	0.827
X4	0.606
X5	0.790
X6	0.606
X7	0.631
X8	0.638
X9	0.607
X10	0.623
X11	0.597
X12	0.598
X13	**0.493**
X14	**0.433**
X15	0.769
X16	0.756
X17	0.223

Table 5 shows the communalities of the Factor Analysis. The extraction values tell us which variables represent dominant determinants of bad loans. These values are equivalent to R^2 value in linear regression analysis. This means that the higher the extraction value, the higher the variation accounted for by a variable and the stronger its determination of a bad loan. In the table, three variables are identified as weak determiners of bad loans. They are removed because their respective extraction values are less than 0.50, which is the general cut-off point. These are X_{13}, X_{14} and X_{17}. While this does not mean that these variables do not affect bad loans at all, they are treated as variables that pose insignificant influences on bad loans. These three variables are eliminated in 2 iterations, with X_{17} removed in the first iteration. In essence, the rest of the variables represent dominant determinants of bad loans. Table 6 shows the amount of variations accounted by the factors formed.

Table 6: Eigen Values and Variability

	F1	F2	F3	F4	F5	F6	F7	F8
Eigenvalue	8.120	3.264	1.775	0.482	0.219	0.089	0.027	0.024
Variability (%)	57.998	23.313	12.680	3.444	1.568	0.634	0.192	0.171
Cumulative %	57.998	81.311	93.991	97.435	99.003	99.637	99.829	100.000

Table 6 shows the Eigen values of the factors formed. The Eigen value is proportional to the variability accounted by each factor. Unlike the extraction values, the variability represents the amount of variation accounted by a factor, which is formed by a group of similarly correlated variables (determinants). From the table, it is very likely that three significant factors are formed in the Factor Analysis. The first factor contributes 58% of the variability, whereas the second and third factors contribute 23.3% and 12.7% of the variability respectively. All the variables retained in the Factor Analysis therefore account for 94% of the variability. This total estimate shows that the Factor Analysis is strong as identified earlier. Figure 2 confirms the number of factors retrieved in the Factor Analysis.

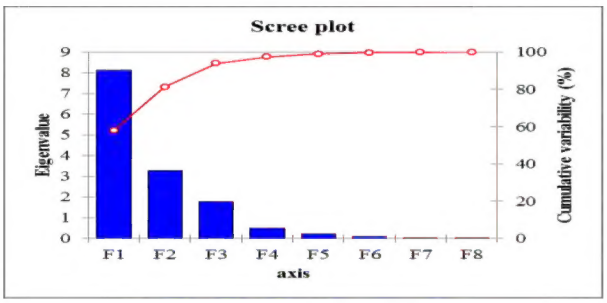

Figure 2: Scree Plot

Figure 2 shows the scree plot of the Factor Analysis. This plot visualises the number of factors formed. The significant factors are those with the tallest bars. By observation, the significant factors are F1, F2 and F3. The bars of remaining factors are flat, indicating their insignificance in the context of this Factor Analysis. Earlier in this analysis, we considered the variation accounted by each factor. In Figure 3, items of each component are shown, and our interest is to highlight the group variability contributed by these items or determinants.

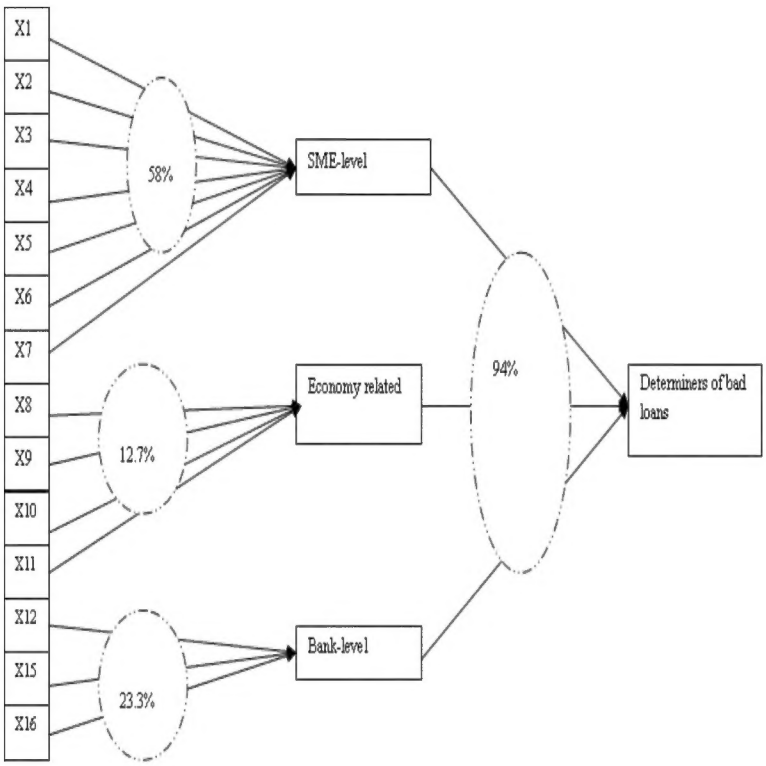

Figure 3: Resulting Conceptual Model

Figure 3 shows the items of the three factors formed. The first factor is the SMEs-level determinants, which are X_1, X_2, X_3, X_4, X_5, X_6 and X_7. The second factor is the bank-level determinants, which are X_{12}, X_{15} and X_{16}. The third factor constitutes economy-related determinants, namely X_8, X_9, X_{10} and X_{11}. At the level of the bank-level determents, X_{13}, X_{14} and X_{17} are removed. In Table 7, we would be able to relate the factors to their individual variables. The table also comes with a ranking of retained variables. This table makes way for determining variables with the lowest and highest influences on bad loans.

Table 7: Ranking of Retained Determinants

Notation	Variable	Initial	Extraction	Rank
X1	Education	1	0.797	3
X2	Years of experience	1	0.927	1
X3	Business size	1	0.827	2
X4	Availability of other income sources	1	0.606	11.5
X5	Types of products/services	1	0.790	4
X6	Loan size	1	0.606	11.5
X7	Number of dependents	1	0.631	8
X8	Inflation	1	0.638	7
X9	Regulation	1	0.607	10
X10	Exchange rate	1	0.623	9
X11	Political stability	1	0.597	14
X12	Credit analysis	1	0.598	13
X15	Appropriateness of interest rate	1	0.769	5
X16	Length of time within which loan was disbursed	1	0.756	6

From Table 7, X_1, X_2, X_3, X_4, X_5, X_6 and X_7 respectively represents education, years of experience, business size, availability of other income sources, types of products/services , loan size and number of dependents. Also, X_8, X_9, X_{10} and X_{11} are respectively represented by inflation, regulation, exchange rate and political stability. Credit analysis, appropriateness of interest rate and length of time within which loan was disbursed are represented by X_{12}, X_{15} and X_{16} respectively. It can be seen that the first four largest communalities are produced by items of the first factor formed. Thus years of experience in business, business size, education of SME owners and types of products/services are the most dominant drivers of bad loans. With this table, the variables can be arranged from highest to lowest in terms of the degree of influence made by them on bad loans. Based on the above findings, the alternative hypothesis is retained. Thus not all identifiable variables determine bad loans in Ghana from the perspective of SMEs financing. The next section comes with a discussion of findings.

DISCUSSIONS

According to findings of this study, three variables are not significant determinants of bad loans in Ghana from the perspective of SMEs financing. This result stands in contrast to the studies of Appiah (2011), Awunyo-Vitor (2012) Oni et al. (2005), and Chelagat (2012). In their study, they found that length of time allowed before repayment starts, repayment monitoring and nature of bank relationship with borrowers are significant drivers of bad loans. However, this study screens out these variables and retain the remaining variables seen in Table 7. This disagreement is justifiable in view of the fact that less robust statistical procedures and tools were used by Appiah (2011), Awunyo-Vitor (2012) Oni et al. (2005), Chelagat (2012) and many researchers in identifying the most dominant determinants of bad loans. Thus the statistical tool and procedures used in these studies do not rigorously scrutinise the variables on the basis of their

group correlations as done in the Factor Analysis of this study. It is therefore logical to say that this study's results reflect the real dominant determinants of bad loans. Of course, the Factor Analysis does not underestimate the influence of the eliminated variables. Rather, it projects their relative weaknesses in the face of other determinants.

On the other hand, this study's findings perfectly agree with those of previous studies at the level of factors contributing the least influence or variability on bad loans. Thus this study indicates that economy-related drivers contribute the least amount of influence on bad loans, with the studies of Chelagat (2012) and Appiah (2011) providing the same evidence. This harmony exists even when three variables have been eliminated from bank-level constituents. This tells us that the variables eliminated (i.e. length of time allowed before repayment starts, repayment monitoring and nature of bank relationship with borrowers) are naturally insignificant determinants of bad loans. The initial disagreement discussed is therefore weightless; it does not make any change in the strength of influences made by the three factors relative to previous findings.

The unique contribution of this study to academic debate is seen from the standpoint of which individual determinant contributes the largest variability and which accounts the lowest variability. Unlike existing studies, this study indicates that number of years of experience in business is the most dominant driver of bad loans. This means that risking a consideration of the business experiences or maybe business skills of SME entrepreneurs comes with a weighty risk. Other determinants such as business size, education of SME entrepreneurs and types of products and services sold are other factors that follow in the hierarchy. Of course, the extracted determinants have the least influence on bad loans. Generally, it is worthwhile to say that not all identifiable variables are dominant determinants of bad loans in terms of SMEs financing.

CONCLUSIONS AND RECOMMENDATIONS

Based on findings, it is concluded that not all identifiable variables are dominant determinants of bad loans from the viewpoint of SMEs financing in Ghana. Yet, most of the variables are dominant determinants in this respect. Repayment monitoring, nature of bank relationship with SMEs and length of time allowed before repayment starts are treated as weak determiners of bad loans by the Factor Analysis. This means that these variables do not strongly determine bad loans.

Variables relating to SMEs form the most dominant group of determinants of bad loans, accounting for 58% of the variability. The variables are education, years of business experience, business size, availability of other income sources, types of products/services, loan size and number of dependents. The second most dominant group constitutes credit analysis, appropriateness of interest rate and length of time within which loan is disbursed. This group accounts for 23.3% of the variability. The third most dominant group accounts for 12.7% of the variability. In all, a variability of 94% is accounted by the most dominant determinants of bad loans. Individually, experience in business is the most dominant driver of bad loans, followed by business size, and education. Among variables retained, political stability is the weakest driver of bad loans. But generally, items removed by the Factor Analysis are considered the weakest drivers of bad loans.

Commercial banks would need to consider some attributes of SMEs more closely before lending to them. Some of these factors are the experience of SME entrepreneurs in business, their education, the size of their businesses, and the type of products they sell. Though enlightening findings have been reached in this research, more empirical studies are needed on the subject. Empirical studies need to be conducted from the perspectives of lending to individuals and large

firms as well. Future studies can also be geared towards revealing the effect of bad loans on the financial performance of commercial banks in Ghana.

REFERENCES

1. Aballey, F. B. (2009). Bad Loans Portfolio: The Case of Agriculture Development Bank, Master's Dissertation, Kwame Nkrumah University of Science and Technology, Kumasi, pp. 6-73.
2. Adjei, D. S. (2012). Micro, Small and Medium Scale Enterprises in Ghana: Challenges and Prospects. A Case Study of Sekondi-Takoradi Metropolis, Master's Dissertation, Kwame Nkrumah University of Science and Technology, Kumasi, pp. 23-78.
3. Agu, O. C, Okoli, B. C, (2013). Credit Management and Bad Debt in Nigeria Commercial Banks –Implication For development, *Journal of Humanities and Social Science*, **12** (3): 47-56.
4. Ahiabor, G. (2013). The Impact of Microfinance on the Development of Small Scale Enterprises in the Ledzorkuku-Krowor Municipality in the Greater Accra Region of Ghana, *European Journal of Business and Management*, **5** (7): 165-171.
5. Appiah, N. B. (2011). Factors influencing loan delinquency in small and medium enterprises' in Ghana commercial bank ltd, Master's Dissertation, Kwame Nkrumah University of Science and Technology, Kumasi, 4-67.
6. Awunyo-Vitor, D. (2012). Determinants of loan repayment default among farmers in Ghana, *Journal of Development and Agricultural Economics*, **4** (13): 339-345.
7. Chelagat, K. N. (2012). Determinants of Loan Defaults by Small and Medium Enterprises among Commercial Banks in Kenya, Master's Dissertation, University of Nairobi, Kenya, pp. 5-56.
8. Demyanyk, Y, Koijen, R. S. J, Van Hemert, O. A. C. (2011). Determinants and Consequences of Mortgage Default, pp. 2-37.
9. Fidrmuc, J, Hainz, C. (2009). Default Rates in the Loan Market for SMEs: Evidence from Slovakia, 2nd Working Meeting of the CESIUK, Comenius University in Bratislava, Faculty of Philosophy, January 14, 2009.
10. Fidrmuc, J, Ciaian, P, Kancs, A, Pokrivcak, J. (2013). Credit Constraints, Heterogeneous Firms and Loan Defaults, *Annals of Economics and Finance*, **14** (1), 53–68 (2013),
11. Ghana Banking Survey, Harnessing the SME Potential, 2013, pp. 4-50.
12. Gyamfi, G. D. (2012). Assessing the Effectiveness of Credit Risk Management Techniques of Microfinance Firms in Accra, *Journal of Science and Technology*, **32** (1): 96-103.
13. Hassan, M. U. (2008). Microfinance in Small and Medium-Sized Enterprises (SMEs) in Pakistan: Practices and Problems in the Prevailing System and Prospects for Islamic Finance, *Kyoto Bulletin of Islamic Area Studies*, **2** (1): 231-237.
14. Kuo, H, Wang, L, Lai, Y, Yu, H, Wu, C. (2010). Loan policy and bank performance: evidence from Taiwan, *Banks and Bank Systems*, **5** (2): 1080120.

15. Krejcie, R. V, Morgan, D. W. (1970). Determining sample size for research activities, *Educational and Psychological Measurement*, **6** (6): 232-256.

16. Kwan, S. H. (2010). Financial Crisis and Bank Lending, Federal Reserve Bank of San Francisco, Working Paper 2010, 7-32.

17. McCann, F, McIndoe-Calder, T. (2012). *Determinants of SME Loan Default: The Importance of Borrower-Level Heterogeneity*, Research Technical Paper, pp. 3-26.

18. Mensah, S. (2004). A Review of SME Financing Schemes in Ghana. Paper presented at the UNIDO Regional Workshop of Financing Small and Medium Scale Enterprises, Accra, Ghana

19. Muhammad, M. Z, Char, A. K, bin Yasoa, M. R, Hassan, Z. (2010). Small and Medium Enterprises (SMEs) Competing in the Global Business Environment: A Case of Malaysia, *International Business Research*, **3** (1): 66-74.

20. Mwobobia, F. M. (2012). The Challenges Facing Small-Scale Women Entrepreneurs: A Case of Kenya, *International Journal of Business Administration*, **2** (3): 112-121.

21. Nawaz, M, Munir, S, Siddiqui, S. A, Afzal, F, Asif, M, Ateeq, M. (2012). Credit Risk and the Performance of Nigerian Banks, *Interdisciplinary Journal of Contemporary Research in Business*, **4** (7): 51-63.

22. Nguta, M. H, Huka, G. S. (2013). Factors Influencing Loan Repayment Default in Micro-Finance Institutions: The Experience of Imenti North District, Kenya, *International Journal of Applied Science and Technology*, **3** (3): 80-84.

23. Obamuyi, T. M. (2007). An Exploratory Study of Loan Delinquency among Small and Medium Enterprises (SMEs) In Ondo State of Nigeria, *Labour and Management in Development*, **8**: 2-8.

24. Oni O. A, Oladele, O. I, Oyewole, I. K. (2005). Analysis of Factors Influencing Loan Default among Poultry Farmers in Ogun State Nigeria, *Journal of Central European Agriculture*, **6** (4): 619-624.

25. Pollio, P, Obuobie, J. (2010). Microfinance Default Rates in Ghana: Evidence from Individual-Liability Credit Contracts, *Microbanking Bulletin*, **20**: 8-14.

26. Quaye, D. N. O (2011). The Effect of Micro Finance Institutions On The Growth Of Small And Medium Scale Enterprises (SMES); A Case Study Of Selected SMES In The Kumasi Metropolis, Master's Dissertation, Kwame Nkrumah University of Science and Technology, Kumasi, pp. 15-67.

27. Standard Chartered Bank (Ghana), Standard Chartered Bank: Celebrating 10 years of SME Banking in Ghana with renewed and strengthened Customer Offerings, Media Briefing Report, July 5, 2012.

28. Wang, X. (2013). The Impact of Microfinance on the Development of Small and Medium Enterprises: The Case of Taizhou, China, The Johns Hopkins University, Baltimore, MD, USA.